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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,154	07/23/2003	Yasuyuki Naito	MAT-8440US	7988
23122	7590	08/25/2004	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			ROJAS, BERNARD	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/625,154	<b>Applicant(s)</b> NAITO ET AL.	
	<b>Examiner</b> Bernard Rojas	<b>Art Unit</b> 2832	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 15, 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-20, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07232003</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Embodiment I in the reply filed on 06/09/2004 is acknowledged. The traversal is on the ground(s) that Embodiments 1, 3 and 5-7 share the common feature of a switch with a movable member and two electrodes. This is not found persuasive because the applicant has not acknowledged that the Embodiments are obvious equivalents. Although Embodiment 5-7 share a moveable member and two electrodes, they disclose using a different control means, power supplies, for actuating the moveable member.

The requirement is still deemed proper and is therefore made FINAL.

Claims 15, 21-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14, 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 states:

*"a first control power connected to the first electrode and for generating a control signal; ...*

*a second control power supply connected to the second electrode and for generating a control signal; ..."*

Claim 11 and 14 recite the limitation "said control signal" in the 1<sup>st</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim. There are two control signals defined in the independent claim and it is unclear as to which control signal is being used.

Claims 16 and 19 recites the limitation "the control signal" in the 1<sup>st</sup> line of the claim. There is insufficient antecedent basis for this limitation in the claim. There are two control signals defined in the independent claim and it is unclear as to which control signal is being used.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kong et al. [US 6,218,911].

Claim 1, Kong et al. discloses a switch [20, figures 1-3] for switching over a signal propagation path by contacting or non-contacting a movable member to or from an electrode, the switch comprising:

- an input port [RF in] for inputting a signal;

- a movable member [24] connected to the input port;

- a first electrode [28] for propagating the signal;

- a first control power supply [34, DC control Voltage 1, figure 1] connected to the first electrode and for generating a control signal;

- a second electrode [26] for blocking off the signal; and

- a second control power supply [36, DC control Voltage 2, figure 1] connected to the second electrode and for generating a control signal;

whereby the first control power supply provides a control signal to the first electrode, the movable member being displaced by a driving force generated based on a potential difference between the movable member and first electrode and a potential difference between the movable member and second electrode, thereby being contacted to the first or second electrode [col. 3 lines 30-53].

Claim 2, Kong et al. discloses that the driving force is an electrostatic force [col. 3 lines 15-25].

Claim 3, Kong et al. discloses that the movable member is vibrated at all times when the switch is in use between the two electrodes in order to switch the RF input signal to one of the two outputs [figure 2 and 3, col. 3 lines 30-53].

Claim 4, Kong et al. discloses that the movable member is alternately displaced to the first electrode and the second electrode [figure 2 and 3, col. 3 lines 30-53].

Claim 5, Kong et al. discloses that the movable member is vibrates between the two electrodes in order to switch the RF input signal to one of the two outputs [figure 2 and 3, col. 3 lines 30-53].

Claims 6 and 10, Kong et al. discloses that the movable member is vibrated in a state contacted on the first electrode or the second electrode as the movable member moves to contact the other electrode [figure 2 and 3, col. 3 lines 30-53].

Claim 11, Kong et al. discloses that a control signal is supplied to said first or second electrode after releasing the movable member from the first or second electrode in order to cause the moveable member to contact the first or second electrode which was previously not in contact with the movable member [figure 2 and 3, col. 3 lines 30-53].

Claim 12, Kong et al. discloses a switch connecting a plurality of the switches according to claim 1, into one switch [figure 6].

Claim 13, Kong et al. discloses that the movable member and the electrode has a contact interface, a gap between them, in a waveform or rectangular form [figure 2 and 3].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-9, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al. [US 6,218,911].

Claim 7, Kong et al. discloses the claimed invention with the exception of the frequency of the vibrating movable member. It would have been obvious to one having ordinary skill in the art at the time the invention was made to vibrate the movable member at a frequency equal to a self-resonant frequency of the movable member in order to vibrate the moveable member at its peak frequency.

Claims 8 and 14, Kong et al. discloses the claimed invention except for the control signal frequency. It would have been obvious to one having ordinary skill in the

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art at the time the invention was made to adjust the control signal frequency in order to adjust the vibratory frequency of the movable member, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 9, Kong et al. discloses the claimed invention except for the self-resonant frequency. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the self-resonant frequency depending on the desired response speed of the moveable member. Since applicant has not disclosed that utilizing a self-resonant frequency is a frequency corresponding to a speed faster than a desired response speed solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any desired self-resonant frequency.

### ***Allowable Subject Matter***

Claims 16-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

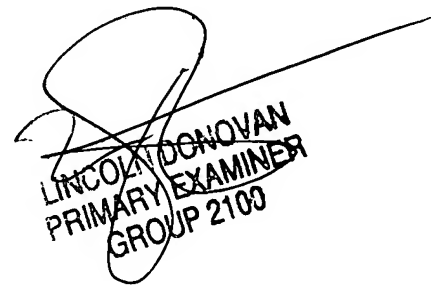


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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